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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/613,607

07/03/2003

Kuo-Reay Peng

TS00-284B

7291

7590

12/03/2004

George O. Saile  
28 Davis Avenue  
Poughkeepsie, NY 12603

EXAMINER

LEWIS, MONICA

ART UNIT

PAPER NUMBER

2822

DATE MAILED: 12/03/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No. 10/613,607	Applicant(s) PENG ET AL.	
	Examiner Monica Lewis	Art Unit 2822	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 17 September 2004.
- 2a) ☒ This action is FINAL.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-15 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-15 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 03 July 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

### **DETAILED ACTION**

1. This office action is in response to the response to the amendment filed September 17, 2004.

#### ***Drawings***

2. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they include the following reference character(s) not mentioned in the description: a) SCR1, SCR2 (See Figure 3). Corrected drawing sheets, or amendment to the specification to add the reference character(s) in the description, are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

#### ***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Art Unit: 2822

4. Claims 1, 3-7, 9, 12 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Applicant's Prior Art in view of Jun et al. (U.S. Publication No. 2002/0084485) and Floyd et al. (U.S. Publication No. 2002/0055232).

In regards to claim 1, Applicant's Prior Art discloses the following:

- a) a first doped region (180) of opposite dopant than said substrate (100) (For Example: See Figure 1);
- b) a second doped region (32) of opposite dopant than said first doped region within said first doped region (For Example: See Figure 1);
- c) a plurality of third doped regions (261, 241, 242, 262) within said substrate of opposite dopant than said substrate (For Example: See Figure 1);
- d) a gate element overlaying said substrate between a first element and second element of said third doped regions (For Example: See Figure 1);
- e) a gate element overlaying said substrate between a third element and fourth element of said third doped regions (For Example: See Figure 1); and
- f) a plurality of fourth doped regions (300) within said substrate of similar dopant as said substrate (See Figure 1);
- g) an electrical conductor system for said second doped region (For Example: See Figure 1 and Page 2 Lines 6); and
- h) an electrical conductor system for said first and fourth elements of said third doped regions and for the first and second elements of said fourth doped regions (For Example: See Figure 1 and Page 2 Lines 6).

In regards to claim 1, Applicant's Prior Art fails to disclose the following:

- a) a first isolation element between said second element of said third doped region and a first side of said second doped region and a second isolation element between said third element of said third doped region and a second side of said second doped region.

However, Jun et al. ("Jun") discloses the use of isolation elements (14) between doped regions (31, 31, 13 and 36) (For Example: See Figure 3a). It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the semiconductor

Art Unit: 2822

of Applicant's Prior Art Drawing to include the use of isolation elements as disclosed in Jun because it aids in reducing avalanche breakdown (For Example: See Paragraph 2).

Additionally, since Applicant's Prior Art and Jun are both from the same field of endeavor (semiconductor), the purpose disclosed by Jun would have been recognized in the pertinent art of Applicant's Prior Art.

b) a surface passivation layer for said ESD protection system.

However, Floyd et al. ("Floyd") discloses the use of the surface passivation layer (58) for an ESD protection device (For Example: See Paragraph 40). It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the semiconductor of Applicant's Prior Art Drawing to include the use the surface passivation layer for an ESD protection device consists of BPSG as disclosed in Floyd because it aids in capping the device (For Example: See Figure 7), thereby protecting the device from contaminants and damage during handling.

Additionally, since Applicant's Prior Art and Floyd are both from the same field of endeavor (semiconductors), the purpose disclosed by Floyd would have been recognized in the pertinent art of Applicant's Prior Art.

In regards to claim 3, Applicant's Prior Art fails to disclose the following:

a) first doped region is doped with a donor element such as As to a concentration between  $5E15$  to  $1E18$  a/cm<sup>3</sup> and has a width between .5  $\mu$ m and a depth between .5 and 6  $\mu$ m to form a N-well.

However, the applicant has not established the critical nature of "first doped region is doped with a donor element such as As to a concentration between  $5E15$  to  $1E18$  a/cm<sup>3</sup> and has a width between .5  $\mu$ m and a depth between .5 and 6  $\mu$ m to form a N-well." "The law is replete

Art Unit: 2822

with cases in which the difference between the claimed invention and the prior art is some range or other variable within the claims. . . . In such a situation, the applicant must show that the particular range is critical, generally by showing that the claimed range achieves unexpected results relative to the prior art range.” *In re Woodruff*, 919 F.2d 1575, 16 USPQ2d 1934 (Fed. Cir.1990). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to have various ranges.

In regards to claim 4, Applicant’s Prior Art fails to disclose the following:

a) second doped region is doped with an acceptor element such as boron to a concentration between  $1E19$  and  $1E21$   $a/cm^3$ .

However, the applicant has not established the critical nature of “second doped region is doped with an acceptor element such as boron to a concentration between  $1E19$  and  $1E21$   $a/cm^3$ .” “The law is replete with cases in which the difference between the claimed invention and the prior art is some range or other variable within the claims. . . . In such a situation, the applicant must show that the particular range is critical, generally by showing that the claimed range achieves unexpected results relative to the prior art range.” *In re Woodruff*, 919 F.2d 1575, 16 USPQ2d 1934 (Fed. Cir.1990). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to have various ranges.

In regards to claim 5, Applicant’s Prior Art fails to disclose the following:

a) third doped region is doped with an acceptor element such as arsenic to a concentration between  $1E19$  and  $1E21$   $a/cm^3$ .

However, the applicant has not established the critical nature of “third doped region is doped with an acceptor element such as arsenic to a concentration between  $1E19$  and

Art Unit: 2822

1E21 a/cm<sup>3</sup>.” “The law is replete with cases in which the difference between the claimed invention and the prior art is some range or other variable within the claims. . . . In such a situation, the applicant must show that the particular range is critical, generally by showing that the claimed range achieves unexpected results relative to the prior art range.” *In re Woodruff*, 919 F.2d 1575, 16 USPQ2d 1934 (Fed. Cir.1990). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to have various ranges.

In regards to claim 6, Applicant's Prior Art discloses the following:

a) first and fourth elements of said third doped regions form the N+ source regions (For Example: See Figure 1).

In regards to claim 7, Applicant's Prior Art discloses the following:

a) second and third elements of said third doped regions form the drain regions of the NFET elements and are electrically floating (For Example: See Figure 1).

In regards to claim 9, Applicant's Prior Art fails to disclose the following:

a) polysilicon is doped with a donor element to a concentration between 1E19 and 1E21 a/cm<sup>3</sup>.

However, the applicant has not established the critical nature of “polysilicon is doped with a donor element to a concentration between 1E19 and 1E21 a/cm<sup>3</sup>.” “The law is replete with cases in which the difference between the claimed invention and the prior art is some range or other variable within the claims. . . . In such a situation, the applicant must show that the particular range is critical, generally by showing that the claimed range achieves unexpected results relative to the prior art range.” *In re Woodruff*, 919 F.2d 1575, 16 USPQ2d 1934 (Fed. Cir.1990). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to have various ranges.

Art Unit: 2822

In regards to claim 12, Applicant's Prior Art fails to disclose the following:

a) plurality of fourth doped regions are doped with an acceptor element such as boron to a concentration between  $1E19$  and  $1E21$   $a/cm^3$ .

However, the applicant has not established the critical nature of "fourth doped region is doped with an acceptor element such as boron to a concentration between  $1E19$  and  $1E21$   $a/cm^3$ ." "The law is replete with cases in which the difference between the claimed invention and the prior art is some range or other variable within the claims. . . . In such a situation, the applicant must show that the particular range is critical, generally by showing that the claimed range achieves unexpected results relative to the prior art range." *In re Woodruff*, 919 F.2d 1575, 16 USPQ2d 1934 (Fed. Cir.1990). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to have various ranges.

In regards to claim 15, Applicant's Prior Art fails to disclose the following:

a) a surface passivation layer for said ESD protection system consists of deposited  $SiO_2$  doped with boron and phosphorous to form BPSG.

However, Floyd discloses the use of the surface passivation layer for an ESD protection device that consists of BPSG (For Example: See Paragraph 40). It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the semiconductor of Applicant's Prior Art Drawing to include the use the surface passivation layer for an ESD protection device that consists of BPSG as disclosed in Floyd because it aids in capping the device (For Example: See Figure 7), thereby protecting the device from contaminants and damage during handling.



Art Unit: 2822

Additionally, since Applicant's Prior Art and Floyd are both from the same field of endeavor (semiconductors), the purpose disclosed by Floyd would have been recognized in the pertinent art of Applicant's Prior Art.

Finally, the following limitation makes it a product by process claim: a) "deposited SiO<sub>2</sub> doped with boron and phosphorous to form BPSG." The MPEP § 2113, states, "Even though product -by[-] process claims are limited by and defined by the process, determination of patentability is based upon the product itself. The patentability of a product does not depend on its method of production. If the product in product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product is made by a different process." *In re Thorpe*, 227 USPQ 964, 966 (Fed. Cir. 1985)(citations omitted).

A "*product by process*" claim is directed to the product per se, no matter how actually made, *In re Hirao and Sato et al.*, 190 USPQ 15 at 17 (CCPA 1976) (footnote 3). See also *In re Brown and Saffer*, 173 USPQ 685 (CCPA 1972); *In re Luck and Gainer*, 177 USPQ 523 (CCPA 1973); *In re Fessmann*, 180 USPQ 324 (CCPA 1974); and *In re Marosi et al.*, 218 USPQ 289 (CAFC 1983) final product per se which must be determined in a "*product by, all of*" claim, and not the patentability of the process, and that an old or obvious product, whether claimed in "*product by process*" claims or not. Note that Applicant has the burden of proof in such cases, as the above caselaw makes clear.

Art Unit: 2822

5. Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Applicant's Prior Art in view of Jun et al. (U.S. Publication No. 2002/0084485), Floyd et al. (U.S. Publication No. 2002/0055232) and Sheu et al. (U.S. Patent No. 5,998,832).

In regards to claim 2, Applicant's Prior Art fails to disclose the following:

a) substrate consists of silicon semiconductor material doped to a concentration between  $1E15$  and  $1E16a/cm^3$ .

However, Sheu et al. ("Sheu") discloses the use of a substrate that consists of silicon semiconductor material doped to a concentration between  $1E15$  and  $1E16a/cm^3$  (For Example: See Column 2 Lines 55-67). It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the semiconductor of Applicant's Prior Art Drawing to include the use of a substrate that consists of silicon semiconductor material doped to a concentration between  $1E15$  and  $1E16a/cm^3$  as disclosed in Pelella because it aids in improving the circuit resistance (For Example: See Column 1 Lines 45-67 and Column 2 Lines 1-33).

Additionally, since Applicant's Prior Art and Sheu are both from the same field of endeavor (semiconductors), the purpose disclosed by Sheu would have been recognized in the pertinent art of Applicant's Prior Art.

Finally, the applicant has not established the critical nature of "substrate consists of silicon semiconductor material doped to a concentration between  $1E15$  and  $1E16a/cm^3$ ." "The law is replete with cases in which the difference between the claimed invention and the prior art is some range or other variable within the claims. . . . In such a situation, the applicant must show that the particular range is critical, generally by showing that the claimed range achieves unexpected results relative to the prior art range." *In re Woodruff*, 919 F.2d 1575, 16 USPQ2d

Art Unit: 2822

1934 (Fed. Cir.1990). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to have various ranges.

6. Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Applicant's Prior Art in view of Jun et al. (U.S. Publication No. 2002/0084485), Floyd et al. (U.S. Publication No. 2002/0055232) and Liao et al. (U.S. Patent No. 5,783,850).

In regards to claim 8, Applicant's Prior Art fails to disclose the following:

a) the gate elements are comprised of gate oxide to a thickness of between 50 and 300A and polysilicon to a thickness between 3000 and 6000A.

However, Liao et al. ("Liao") discloses the use of gate elements that are comprised of gate oxide to a thickness of between 50 and 300A and polysilicon to a thickness between 3000 and 6000A (For Example: See Column 1 Line 46 and Column 4 Lines 14-18). It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the semiconductor of Applicant's Prior Art Drawing to include the use of gate elements that are comprised of gate oxide to a thickness of between 50 and 300A and polysilicon to a thickness between 3000 and 6000A as disclosed in Liao because it aids in increasing speed (For Example: See Column 6 Lines 14-18).

Additionally, since Applicant's Prior Art and Liao are both from the same field of endeavor (semiconductors), the purpose disclosed by Liao would have been recognized in the pertinent art of Applicant's Prior Art.

Finally, the applicant has not established the critical nature of "the gate elements are comprised of gate oxide to a thickness of between 50 and 300A and polysilicon to a thickness between 3000 and 6000A." "The law is replete with cases in which the difference between the claimed invention and the prior art is some range or other variable within the claims. . . . In such

Art Unit: 2822

a situation, the applicant must show that the particular range is critical, generally by showing that the claimed range achieves unexpected results relative to the prior art range.” *In re Woodruff*, 919 F.2d 1575, 16 USPQ2d 1934 (Fed. Cir.1990). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to have various ranges.

7. Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Applicant’s Prior Art in view of Jun et al. (U.S. Publication No. 2002/0084485), Floyd et al. (U.S. Publication No. 2002/0055232) and Chang (U.S. Patent No. 5,814,547).

In regards to claim 10, Applicant’s Prior Art fails to disclose the following:

a) the isolation elements consists of shallow trench isolation structures with a width of between .1 and 3 um and a depth of between .5 and 4 um.

However, Chang discloses the use of isolation elements that consist of shallow trench isolation structures with a width of between .1 and 3 um and a depth of between .5 and 4 um (For Example: See Column 2 Lines 32-59). It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the semiconductor of Applicant’s Prior Art Drawing to include the use of isolation elements that consist of shallow trench isolation structures with a width of between .1 and 3 um and a depth of between .5 and 4 um as disclosed in Chang because it aids in providing the use of less surface area (For Example: See Column 1 Lines 29-31).

Additionally, since Applicant’s Prior Art and Chang are both from the same field of endeavor (semiconductors), the purpose disclosed by Chang would have been recognized in the pertinent art of Applicant’s Prior Art.

Finally, the applicant has not established the critical nature of “the isolation elements consists of shallow trench isolation structures with a width of between .1 and 3 um and a depth

of between .5 and 4  $\mu\text{m}$ .” “The law is replete with cases in which the difference between the claimed invention and the prior art is some range or other variable within the claims. . . . In such a situation, the applicant must show that the particular range is critical, generally by showing that the claimed range achieves unexpected results relative to the prior art range.” *In re Woodruff*, 919 F.2d 1575, 16 USPQ2d 1934 (Fed. Cir.1990). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to have various ranges.

8. Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over Applicant’s Prior Art in view of Jun et al. (U.S. Publication No. 2002/0084485), Floyd et al. (U.S. Publication No. 2002/0055232) and Hau et al. (U.S. Patent No. 6,475,875).

In regards to claim 11, Applicant’s Prior Art fails to disclose the following:

a) the isolation elements are filled with a first layer of  $\text{SiO}_2$  to a thickness of between 50 and 500A and then filled with a second layer of  $\text{SiO}_2$  to said substrate surface.

However, Hau et al. (“Hau”) discloses the use of isolation elements that are filled with a first layer of  $\text{SiO}_2$  to a thickness of between 50 and 500A and then filled with a second layer of  $\text{SiO}_2$  to said substrate surface (For Example: See Column 3 Lines 39-44). It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the semiconductor of Applicant’s Prior Art Drawing to include the use of isolation elements are filled with a first layer of  $\text{SiO}_2$  to a thickness of between 50 and 500A and then filled with a second layer of  $\text{SiO}_2$  to said substrate surface as disclosed in Hau because it aids in providing isolation of various components (For Example: See Column 2 Lines 6-60).

Additionally, since Applicant’s Prior Art and Hau are both from the same field of endeavor (semiconductors), the purpose disclosed by Hau would have been recognized in the pertinent art of Applicant’s Prior Art.

Art Unit: 2822

9. Claims 13 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Applicant's Prior Art in view of Jun et al. (U.S. Publication No. 2002/0084485), Floyd et al. (U.S. Publication No. 2002/0055232) and Wolf *Silicon Processing*.

In regards to claim 13, Applicant's Prior Art fails to disclose the following:

a) electrical system for said second doped region consists of aluminum metallurgy or aluminum doped with 1% silicon metallurgy and is connected to a first voltage source consisting of the input pad of said active semiconductor devices.

However, Wolf discloses the use of the aluminum metallization (For Example: See Page 191). It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the semiconductor of Applicant's Prior Art Drawing to include the use of aluminum metallization as disclosed in Wolf because it aids in providing low resistivity (For Example: See Page 191).

Additionally, since Applicant's Prior Art and Wolf are both from the same field of endeavor (semiconductors), the purpose disclosed by Wolf would have been recognized in the pertinent art of Applicant's Prior Art.

In regards to claim 14, Applicant's Prior Art fails to disclose the following:

a) electrical system for said first and fourth doped region consists of aluminum metallurgy or aluminum doped with 1% silicon metallurgy and is connected to a first voltage source consisting of the input pad of said active semiconductor devices.

However, Wolf discloses the use of the aluminum metallization (For Example: See Page 191). It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the semiconductor of Applicant's Prior Art Drawing to include the use of aluminum metallization as disclosed in Wolf because it aids in providing low resistivity (For Example: See Page 191).

Additionally, since Applicant's Prior Art and Wolf are both from the same field of endeavor (semiconductors), the purpose disclosed by Wolf would have been recognized in the pertinent art of Applicant's Prior Art.

***Response to Arguments***

10. Applicant's arguments filed 9/17/04 have been fully considered but they are not persuasive. First, Applicant argues that "the main issue associated with Applicant's Prior Art is to reduce the ESD device capacitance. Those skilled in the art should have the motivation of reducing the ESD device capacitance instead of reducing the breakdown voltage. Therefore, it would not have been obvious to modify the semiconductor of Applicant's Prior Art to include the use of isolation elements as disclosed in Jun...the isolation elements in Jun do not necessarily abut the doped regions. Thus, Applicants respectfully asserts that it would not have been obvious to modify the semiconductor of Applicant's Prior Art to include the isolation elements as disclosed in Jun." In response to applicant's argument that there is no suggestion to combine the references, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). The isolation elements (14) do abut the doped regions (31, 32, 13 and 36) and the fact that applicant has recognized another advantage which would flow naturally from following the suggestion of the prior art cannot be the basis for patentability when the differences would

Art Unit: 2822

otherwise be obvious (For Example: See Figure 3a). See *Ex parte Obiaya*, 227 USPQ 58, 60 (Bd. Pat. App. & Inter. 1985).

Second, Applicant argues that “the references do not teach or reasonably suggest at least the features/limitation emphasized above in claim 1.” In response to applicant's arguments, the recitation “a low capacitance depletion mode SCR and NFET...protection to the active semiconductor devices” has not been given patentable weight because the recitation occurs in the preamble. A preamble is generally not accorded any patentable weight where it merely recites the purpose of a process or the intended use of a structure, and where the body of the claim does not depend on the preamble for completeness but, instead, the process steps or structural limitations are able to stand alone. See *In re Hirao*, 535 F.2d 67, 190 USPQ 15 (CCPA 1976) and *Kropa v. Robie*, 187 F.2d 150, 152, 88 USPQ 478, 481 (CCPA 1951). Finally, as stated above Jun does disclose isolation elements that are located between the elements of the various doped regions.

### ***Conclusion***

11. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event,




Art Unit: 2822

however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Monica Lewis whose telephone number is 571-272-1838.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Amir Zarabian can be reached on 571-272-1852. The fax phone number for the organization where this application or proceeding is assigned is 703-308-7722 for regular and after final communications. Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0956

ML  
November 18, 2004



**Mary Wilczewski**  
**Primary Examiner**